DOCUMENT RESUME

ED 199 652 CS 005 943

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TITLE Toward Reassessment of the Principles Underlying the Choice of Vocabulary and the Teaching of Word Analysis Skills in Reading Instructional Material.
PUB DATE Dec 80
NOTE 11p.; Paper presented at the Annual Meeting of the National Reading Conference (30th, San Diego, CA, December 3-6, 1980).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Basal Reading; *Content Analysis; Elementary Education; Morphemes; Reading Instruction; *Reading Materials; Reading Research; *Textbook Content; *Textbook Evaluation; Textbook Preparation; Vocabulary Development; *Word Study Skills
IDENTIFIERS *Prefixes

ABSTRACT

Seeking to discover how comprehensively and systematically one significant category of semantic elements is taught in current reading instructional material, a study surveyed the teaching and use of prefixes in the teachers' guides, readers, and workbooks (grades two to six) of six major reading series. Findings indicated that many of the most frequently taught and used prefixes were not taught in all reading series, with no apparent reasons for their omission. The data also revealed that sufficient opportunities for systematic vocabulary development with respect to most prefixes did not exist at many grade levels in the series that were studied. The following reasons were offered to explain the data: (1) a general lack of coordination between what is suggested in the teachers' guides and what is offered in corresponding reading selections, (2) a basic misunderstanding of prefixation in the English language by textbook writers or consultants, and (3) over-reliance on the principle of frequency or literary selections in determining the vocabulary used. Based on the data and these explanations, it was suggested that researchers may need to reassess the principles underlying the choice of vocabulary and the teaching of word analysis skills in instructional reading materials. (Author/RL)

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TOWARD REASSESSMENT OF THE PRINCIPLES UNDERLYING THE CHOICE OF VOCABULARY AND THE TEACHING OF WORD ANALYSIS SKILLS IN READING INSTRUCTIONAL MATERIAL*

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Introduction

The importance of vocabulary in reading comprehension has been consistently reported in several areas of reading research. Chall (1958), in a critical review of readability formulas, found that a measure of vocabulary load was the major factor in almost all readability formulas. Studies of children's language development show a high correlation between pre-schooler's knowledge of word meanings and achievement in reading at higher grade levels (e.g., Loban, 1970). Factor analyses of component skills in reading comprehension point to a knowledge of words as the essential component in reading comprehension (e.g., Davis, 1971). Further, a summary of research findings from studies in the teaching of vocabulary (Petty, Herold, & Stoll, 1968) indicates that some systematic attention to vocabulary teaching is better than no attention at all.

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*Paper presented at the Annual Meeting of the National Reading Conference in San Diego, California, December 3, 1980.

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An examination of the way in which new words are introduced in reading series for the elementary grades (Harris & Jacobson, 1973-1974) indicates that vocabulary seems to be introduced primarily on the basis of frequency of use in written material. An inspection of several recent reading series (listed below) suggests that vocabulary is also determined by idiosyncratic usage in literary selections. When literary selections are adapted, there appears to be no indication of the principles followed in the choice of words. It is highly rational in beginning readers to teach children to read words that are in their oral vocabulary and that are among the most frequent words in written material as well. However, too much reliance on the principle of frequency beyond the decoding stages or on exposure to a richer (and possibly uncontrolled) variety of words in literary selections may not be sound from a long-range point of view if it precludes the possibility for more systematic development of a reading vocabulary.

In 1974, O'Rourke proposed a planned program of vocabulary development that contains as its nucleus the study and use of generative roots and affixes. Such a program would foster the systematic expansion of children's knowledge of words by enabling students to transfer the meaning of an element learned in one word to other words containing that element. However, O'Rourke did not investigate whether or not current reading instructional material provides opportunities for expanding children's knowledge of words on this basis.

Purpose

This study sought to discover how comprehensively and systematically vocabulary is taught in reading instructional material. Because it was not possible to deal with all categories of word elements, the scope of this research was limited to the teaching of prefixes and the use of prefixed words; this category could be dealt with comprehensively. Six widely-used reading series and their

accompanying workbooks (Grades 2 to 6) were surveyed to determine: (1) how prefixes are taught, (2) what prefixes are taught, (3) in what order, (4) at what grade levels, and (5) how many different exemplars of the prefix are offered in meaningful reading material. Findings from this survey could provide data with which to judge whether or not these series provide opportunities for systematic expansion of children's knowledge of words.

Procedures

The first issue was to decide upon the definition of the term "prefix" to be used. According to Marchand's (1969) text, prefixes are defined as "bound morphemes which are preposed to free morphemes" (p. 129). Marchand emphasizes that "only such particles as are prefixed to full English words of general, learned, scientific or technical character can be termed prefixes" (p. 132). By definition, then, the elements ad- in adjacent, ex- in expect, pre- in prefer, com- in companion, ob- in obstacle, etc. are not prefixes in these words because they are not preposed to independent words. They are etymological elements attached to roots in non-composite words (i.e., words that cannot be analyzed on the basis of English word-formation). Indeed, such elements as com-, ob-, and ad- are never prefixes.

Second, the following six reading series were selected for the survey:

(1) Allyn & Bacon Basic Reading Series (1968)

(2) Macmillan Reading Program, Revised Edition (1970)

(3) Ginn 360 Reading Series (1970)

(4) Scott Foresman Reading Systems (1911-1972)

(5) Holt Basic Reading System (1973)

(6) Ginn 720 Reading Series (1976)

They were chosen because: (1) they have been among the most widely-used series in this country; (2) they range in terms of date of publication from the 1960's through the 1970's, thus reflecting differing theoretical issues over the past

decade influencing the construction of reading instructional material; and (3) they represent a rough balance between those tending more to use adapted or constructed selections and those tending more to use unadapted literary selections. To judge from the information in the acknowledgment pages at the beginning of the readers, the Allyn & Bacon, Macmillan, and Ginn 360 series appear to contain a rough balance between adapted and unadapted selections; the Holt and Scott-Foresman series tend to contain more unadapted literary selections; the Ginn 720 series seems to fall between these two groups.

Third, all the reading material in the pupil readers and workbooks at each grade level in all series was read word by word. For each grade level in each series, tables were constructed containing all exemplars of prefixes taught at that grade level and at previous grade levels. It should be noted that the listing of a word in the tables indicated only the appearance of the word (including any derivatives), not frequency. The data in the tables were drawn only from the material in the readers and workbooks that required either meaningful reading or writing of prefixed words; this criterion excluded words listed for purposes of alphabetizing, stress placement, etc.

Findings

Table 1 indicates the total number of different exemplars for each prefix at each grade level once a prefix is introduced or mentioned in the teachers' guides, readers, or workbooks in the six series. The numeral zero indicates that no exemplars were found at the grade level even though the prefix was introduced or mentioned at that level or at an earlier one. Considerable variation in the order of introduction exists for most prefixes; only un-, re-, dis-, in-, and im- are introduced in all series by Grade 4. Many prefixes are not

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Insert Table 1 about here

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introduced at all. It is not clear from the reading series themselves or from any research literature why these omissions occur or what rationale might provide the basis for the order of introduction of prefixes in general. It is clear only that many common prefixes used in elementary reading material are not taught in all series.

Table 1 also reveals a paucity or total absence of exemplars for many prefixes at many grade levels throughout these series. The following reasons are offered to account for this scarcity:

a. There seems to be a lack of coordination between what is suggested for teaching (or mentioned) in the teachers' guides and what is available in the corresponding reading selections in the readers or workbooks. Quite often prefixes are suggested for teaching in exercises in the guides but only one or two exemplars (if any at all) appear in the reading selections. In general, very few corresponding workbook pages contain an exercise for a prefix suggested for teaching in the guide.

b. There appears to be a misunderstanding of prefixation in all the reading series, according to the definition that was followed in this research. Distinction is usually not made between prefixed words, such as remake, precaution, or defrost, and words with initial etymological elements, such as reflect or deliver. As a result, many words offered as examples of prefixed words are incorrect or misleading (e.g., disappoint) and therefore confusing, difficult, or useless for teaching or learning purposes.

A comparison of the total number of different exemplars for all prefixes at each grade level in each series reveals some differences between the series, but there appears to be no relationship between the total number of different exemplars and whether the series contain a balance between adapted and unadapted literary selections or mainly adapted ones.

Conclusions and Implications

It seems reasonable to conclude that all the prefixes listed in Table 1 should be taught to all elementary school students. While Groff (1972) concluded from a review of the literature that there is no evidence to support the teaching of prefixes as a way to improve children's reading vocabulary, research reported by Graves & Hammond (1980) provides evidence that teaching prefixes correctly to Grade 7 students enabled both higher and lower ability experimental students to unlock the meaning of novel words better than a control group of students being taught vocabulary by a whole word method.

From an inspection of the data summarized in Table 1, it is also possible to judge that sufficient opportunities for systematic vocabulary development with respect to many prefixes do not exist at many grade levels in these series, whether or not the series contain mainly unadapted literary selctions or a balance between adapted and unadapted ones. At present, choice of vocabulary seems to be governed either by idiosyncratic usage in literary selections or by the principle of frequency or the degree of regularity in sound to symbol correspondence. If one may generalize from the findings of this study, the analysis of these six reading series suggests the need to reassess the rationale for choice of vocabulary in reading instructional material. Such a reassessment logically involves the question of what kinds of reading selections should constitute reading instructional material, since the vocabulary used in a specific mode of written discourse is organically related to the nature of that mode.

It is possible that literary selections, whether adapted or not, cannot provide sufficient opportunities for systematic vocabulary development because of their very nature. Vocabulary can be taught systematically if key words or words associated with these key words can be repeated as often as is necessary and if derivatives can be used. Repetition of key words does not typically occur in fictional, literary prose, nor do derivatives play any important role in

its vocabulary. On the other hand, repetition of important words and the frequent use of affixed words are dominant features of informational, non-literary prose (Stotsky, 1979; Stotsky, in press). It is possible that the vocabulary of informational prose may be even more important for children to learn than the vocabulary of literature. If this is so, then reading educators should consider the use of another rationale for choosing reading selections in reading instructional material than the one used to guide the choice of reading selections in most current reading series.

There are also several areas of investigation for researchers to pursue. First, how widespread is the misconception of prefixation found in these six series? A preliminary inspection of several other reading series, supplementary reading instructional materials, and language arts textbooks for both the elementary and secondary levels reveals the same inaccuracies. Second, how accurate is the explanation and description of word analysis in professional textbooks on the teaching of reading and language arts? An examination of several texts (e.g., Dallman, Rouch, Chang, and DeBoer, 1978, p. 184; Lapp & Flood, 1978, p. 256) also reveals inaccuracies. Thus an assessment of the way the topic of word analysis is presented and discussed in informational material for researchers and teachers as well as in instructional material for students is strongly recommended.

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Macmillan Reading Program, Revised Edition. A.J. Harris, et al. Macmillan Co., 1970

Reading 360. T. Clymer, D. Gates, et al. Ginn & Co., 1970.

Reading 720. T. Clymer, et al. Ginn & Co., 1976.

Scott Foresman Reading Systems. I.E. Aaron, et al. Scott, Foresman & Co., 1971.

TABLE 1

NUMBER OF DIFFERENT EXEMPLARS OF EACH PREFIX AFTER THE PREFIX IS FIRST INTRODUCED OR MENTIONED IN SIX-READING SERIES

Series	Allyn & Bacon					Macmillan					Ginn 360					Scott-Foresman					Holt					Ginn 720				
Grade	2	3	4	5	6	2	3	4	5	6	2	3	4	5	6	2	3	4	5	6	2	3	4	5	6	2	3	4	5	6
anti-			1	0	2				3	4									3	0				1	1					1
circum-															1									1						
co-										2										6					3					
counter-			1	1	2																			1	1					
de-				4	0						2	1	0	3	2						0	1	0	2	4	0	3	0	4	4
dis-		6	7	14	11		7	8	18	27			9	15	21		3	7	11	14	1	2	7	7	23		9	4	11	19
em-					1					3																				
en-			1	11	6				12	15			7	13	11			2	12	12	2	1	9	9	15			4	16	12
extra-																									0					
fore-									12	5				13	4				9	8		2	5	6	5				13	9
il-										1														0	1					
in-		1	2	6	9		4	5	6	6			4	5	8			2	4	7			1	2	8			2	5	8
in-		3	1	8	8		0	4	16	20			5	10	17			3	5	18		1	6	3	14			4	13	13
ir-										3								0	2	2				2	0					
inter-				1	1					2										5					4					3
intra-																									2					0
mid-									11	7									3	3		2	3	3	3					
mis-			1	2	7				6	5								2	3	3		0	2	4	4					
non-			0	1	2					10			0	3	6				3	1		0	2	5	8			1	4	5
post-															0					0				0	0					0
pre-			0	1	3				6	3		1	1	3	5			1	2	4			3	3	7	1	4	2	2	7
pro-			0							0				0	0								0	0	0				0	0
re-		2	8	25	19		6	17	19	27	1	12	10	9	13		5	6	21	17		4	11	13	14	1	6	10	9	22
semi-					1																				2					
sub-			1	2	3				3	2			4	3	6					3	1	0	3	3	5				3	3
super-							4	0	0	5									2	2			4	7	3				1	5
trans-				3	0					2										2				3	2				1	4
un-		20	27	53	71	12	23	60	90	100		34	56	63	97	7	14	26	59	75	4	10	40	31	69		23	37	63	86
TOTAL		32	52	132	144	12	44	94	202	249	3	48	96	140	191	7	22	49	139	182	8	23	96	106	198	2	45	64	145	201